

**A
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Annual Review Issue

Man Against War

Hon. Thomas J. Watson

The Honorable Thomas J. Watson, Jr., former Chairman of the Arms Control and Disarmament Agency General Advisory Committee, Ambassador to Moscow and Chairman of the Board of IBM, delivered the keynote speech to the 1981 ACA Annual Meeting, held December 9. The text of his remarks, calling for an immediate Presidential Committee review of SALT II, follows:

Ambassador Smith, members of the Arms Control Association, thank you for asking me to come. I have great respect for this organization, and am honored to be with you. Many of you helped me in the General Advisory Committee, or while I was in the Soviet Union. I'm delighted to be here to say thank you. One of your members, Paul Warnke gave me great help in getting the General Advisory Committee organized in 1977. He is one of our clearest thinkers on the subject of arms control. I admire his wisdom and courage.

During the winter of '77 and '78 when I was beginning to learn my way around the State Department, I had an appointment with Ambassador Gerry Smith, whom I had known by reputation for many years . . . He told me something on that first visit I've never forgotten. He said most of the people then making decisions regarding nuclear arms had never seen an explosion. If they had, their approach might be less theoretical and more realistic. The same situation pertains today. Then he told me of a thermonuclear experiment he had witnessed at Kwajalein. The observation boat was thirty miles from ground zero. He was standing near a hard-lined politician. Then the flash—the mushroom cloud—the heat, and the shock wave, and his companion turned away and was sick.

His book on SALT I, *Double Talk*—begins with a quotation from Einstein not inappropriate to the current situation in the world—"And at the end looming ever clearer—lies general annihilation."

Somehow we have lost reality as we move further and further from the date of the last atmospheric explosion.

Churchill predicted the world of the future as "a balance of terror." Oppenheimer described it as "two scorpions in a bottle." Now, we certainly live in terror and we have five scorpions in that bottle, and there are a number of additional applicants to the club waiting in the wings. Some of those members would not pass a normal admissions committee, but they're going to be there, and we'd better start thinking about them.

I applaud the educational work of the Arms Control Association. You are realists, you have labored for ten years to bring this crucial issue to wider public attention, and to add common sense wherever possible. It has been and is an uphill battle, but now I believe the tide is beginning to turn.

Whether as a career or as an avocation, arms control takes dedication, selflessness, some risk, and a tough skin. It is far easier to agree with the simple slogan to "arm up and stand firm" than to explain how we can most safely arm up; where,

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Watson

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and for what principles, we should stand firm. It is difficult to explain why our security may be best served by reaching a compromise on mutual restraint in thermonuclear weapons. Arms controllers have to provide the anchor for rational debate in our society.

But with all my admiration for arms control efforts, virtue is not its own reward. The bottom line is not whether you have supported the right cause, but whether you have succeeded in making the world a safer place while protecting U.S. security. This requires not only understandings acceptable to the Soviets—difficult though that is—but the concurrence of the elected representatives of the American people—many of whom are skeptical and impatient.

Somehow the Congress must reach a better understanding of the dangers facing us and of possible solutions. Time is getting very short. We and the Soviets are acting like thermonuclear lemmings, headed for self-destruction.

I believe that thermonuclear weapons are good for two things: for deterrence, or for suicide. Other suggested uses are pure fantasy. Scenarios for trying to use limited nuclear war to advance the interests of the United States lack understanding of the weapon, or common sense, or both.

We do need more military spending, but it's in the unglamorous area of conventional arms. There is no nuclear substitute for strong standing military forces, well trained, and well led. The U.S. may have gotten lazy and careless relying on the crutch of nuclear weapons. I for one would like to see us demonstrating national purpose in other safer and more convincing ways.

For example, I would go a good deal further than most and institute universal service for all young people even though I am aware that enlistments have picked up as the recession has deepened. I would take any other appropriate steps to demonstrate our National Purpose, but I certainly would not try to demonstrate National Will by attempting to get an advantage over the Soviet Union in nuclear arms. I wouldn't try it because it simply will not work.

Where do we stand today? We have been studying for nine months how to close the so-called "window of vulnerability." Despite the delay in getting back on the negotiating track however, this time may not have been wasted. For the President wisely concluded that neither desert racetracks for the MX missile, nor any other basing system now available, can make our land missiles invulnerable.

He also concluded that submarines are the most survivable strategic weapons currently available.

Most important, President Reagan's proposals do not violate the limits set by the SALT II Treaty, and they leave open the possibility of pinning down those limits as a starting place for future reductions. In this regard I noted with interest the President's comment in his November 16th speech that in strategic arms talks "we can benefit from work done over the past decade."



The Honorable Thomas J. Watson, Jr. addresses members at the 1981 Annual Meeting of the Arms Control Association.

That Treaty, the culmination of efforts carried on under four Presidents, has been undergoing a protracted reappraisal.

Three choices are being debated:

- Will we challenge the Soviet Union to an all-out nuclear arms race believing that recklessness, irrationality, and unpredictability will sufficiently scare the Russians to produce better behavior in them?
- Or will we play games with our future by entering the limbo of endless negotiations, drawn out either by design—to fool the Russians while we arm up—or by pursuing naive objectives?
- Or will we seriously and in good faith attempt to negotiate an end to the arms race, a reduction in nuclear armaments, and commensurate reductions in the danger of nuclear war?

President Reagan's strategic weapons package, announced in October, rules out, at least for now, the option of declaring an all-out arms race. And his November 18th proposal opens the way for serious negotiations.

But conflicting testimony on the value of the SALT II Treaty and the feasibility of Soviet-American negotiations raises questions about the views of some of the President's advisers.

If one reads all that has been said in the last year on the subject of SALT II, one begins to feel that there is a certain "Alice in Wonderland" quality to the way these life and death matters are being thought through. I seriously doubt if the citizens of the United States have any accurate idea of what's going on.

For example, a responsible member of the Administration maintains that it was merely an accident that the President's strategic program did not violate the SALT II limits. His view, as I understand it, continues to be that the SALT II Treaty is "fatally flawed," although it is not clear exactly what he would change.

The Arms Control Agency was set up by President Kennedy as a balance to the Department of Defense and the Joint Chiefs of Staff. While we armed up President Kennedy wanted some agency dedicated to trying to make fair and

Continued

verifiable treaties. Now, however, that agency seems negative about making treaties while the Chairman of the Joint Chiefs defends the SALT II Treaty. It would take the Mad Hatter to do justice to that paradox.

It is encouraging that talks have begun on the European nuclear balance. President Reagan's proposal for a zero level of intermediate range missiles in Europe is constructive. There are probably reasons why the Soviets will profess to find this unacceptable, and will emphasize the existing level of British and French nuclear weapons, and our own Forward Based Systems. It is up to the Soviets to lay out their views and their counterproposals. The President has plainly stated that we will listen and carefully consider them.

As these negotiations unfold, it will be extremely important to stay together with our allies on a common position. After all, the NATO decision to deploy American missiles in Europe was taken in response to European fears that there was no adequate U.S. response to the threat of new Soviet SS-20 missiles, and that the existing U.S. nuclear umbrella would somehow become irrelevant. The U.S. European deployments thus are largely symbolic. As long as a negotiated solution satisfies our allies, we should be satisfied. Above all, we should not appear to be trying to force new weapons down our European allies' throats.

The European talks and future U.S.-Soviet talks on Strategic Arms are inevitably linked, not only by the Administration's own stated position, but by the blurring of the distinction between theater and strategic weapons. Therefore, we cannot hope to improve Allied unity by appearing reasonable in the European negotiations while dragging our feet in talks on strategic arms. Such a transparent tactic would damage the Alliance.

President Reagan's decisions and his negotiation proposals indicate that he seriously wishes to pursue the negotiating option for assuring U.S. security at lower levels of nuclear armaments. It will not be an easy path, with some of the President's advisers headed in the opposite direction.

Given these differences, what can be done? We have been working on the SALT II Treaty for over eight years. Some of the delays have been the fault of domestic politics—some

"It is far easier to agree with the simple slogan to 'arm up and stand firm' than to explain how we can most safely arm up; where, and for what principles we should stand firm. . . ."

because of U.S. or Soviet suspicions—and the Treaty was really set back by the inexcusable Soviet invasion of Afghanistan. Since then, through polemics, threats, name calling, and other injudicious actions, we have made the relationship even more difficult.

When I left the Soviet Union, I told a U.S. Press gathering that I thought the Soviet Union and the United States were on a collision course. Now I believe the angle of convergence is even sharper. The Soviet Union, the United States, and the world are in real danger. That peril is rapidly being recognized here at home. It is recognized by the Alliance, manifested not only in anti-nuclear demonstrations in Western Europe, but also in the increasing concern of the West European leadership about the course of our country.

Given these great and growing concerns, I propose that the President consider submitting the SALT II Treaty to the Senate for ratification in the immediate future. To make sure this act would be in the best interests of the United States, I propose the Treaty be quickly reappraised in the light of its effect on total U.S. Security—and on the Alliance.

It is extremely important for the President to have the views and support of leading figures from both parties as we consider SALT II.

Therefore, the President should immediately organize a Committee of former Secretaries of State and Defense, former Chairmen of the Joint Chiefs of Staff, former Directors of the Central Intelligence Agency Staff and the Arms Control Agency, and former National Security Advisers. This Committee should have only one mission: namely, within 60 days render a report to the President stating whether or not the immediate ratification of the SALT II Treaty is or is not in the best interest of U.S. security.

Such a Committee would embrace many people with very broad experience with nuclear arms, and Soviet-American negotiations. It should analyze the Treaty in terms of U.S. security. It should consider carefully the performance of the Soviets under previous nuclear treaties and report accordingly.

It's time for facts. This is my best judgement of how to develop those facts and place them before the American people. I believe the President would find among such a group a strong consensus, a central theme of common sense, which would sweep out the primitive faith that more nuclear arms will solve all our problems, and sweep out, too, the naive hope that we can frighten the Russians into submission.

SALT II is not a final answer, only a step along the way, but it has been worked on in a bipartisan way for many years. If the panel I have suggested finds that the Treaty on balance improves our security, then the President should submit the Treaty to the Senate with his full endorsement. The Com-



In recognition of his dedication to finding a "pragmatic way to peace," and in honor of his decade of service to this cause as Chairman of the Arms Control Association, William C. Foster was presented an award at the ACA 1981 Annual Meeting. From L to R: Gerard C. Smith, William C. Foster and Herbert Scoville, Jr.

ACA Year in Review

Prospects for Arms Control

The death knell that was sounded in 1980 and early 1981 for arms control has, predictably, proved premature. More rapidly than its campaign rhetoric would have suggested, the Reagan Administration has pursued talks on long-range theater nuclear forces (LRTNF) in Europe and pledged itself to resume its version of SALT, known as Strategic Arms Reduction Talks (START) in 1982. Though doubts remain about the Administration's ability and sincerity regarding these initiatives—and about its requirements for deep cuts and “creative verification”—the Reagan posture has confounded both administration adherents and critics. Even those who predicted the new team would discover that arms limitation is a national security imperative, not an option, have marveled at the speed of this learning process.

Yet there is much to be concerned about in arms control. Aside from highly visible and contentious delivery vehicles, such as the MX and the revived B-1 bomber, the Reagan five-point strategic program will greatly proliferate U.S. nuclear warheads and introduce the unverifiable sea-launched cruise missile (SLCM). To permit all of these programs, the administration is considering use of spent civilian nuclear reactor fuel as a source of material for nuclear bombs and rockets, while expanding the testing and production efforts set in motion by the Carter Administration.

Meanwhile, important and promising security negotiations, such as the anti-satellite (ASAT) weapons talks or the comprehensive nuclear test ban discussions, have been put on the back burner.

Changing Climate of Opinion

In the past, even the very recent past, the effect of such unrestrained growth in the nuclear impulse would have been accepted by the public as necessary steps. Or, at least, been met with indifference. But a new mood has been germinating. Fed by concern about nuclear energy, by the prospects implicit in the failure of SALT II, and by worsening East-West relations, public anxiety over nuclear issues has grown to levels that contrast markedly with attitudes prevalent just two years ago during the SALT II debate. There are, in addition, signs that this anxiety will not prove as weak and transitory as previous manifestations have been.

Within the Reagan Administration, some clearly hope that the widespread disaffection with nuclear weapons in Western Europe will somehow ‘blow over,’ as negotiations get under way, and that a relatively uncomplicated deployment of modernized nuclear weapons will become possible. But all indicators suggest West European publics want a decisive resolution of the issue, not palliatives. Equally clear is the fact that the vocal minority desiring a reduction in nuclear forces and tensions is influencing the passive majority. Though there are, and will remain, signal differences between the West European movement and the growing North American apprehension, the political effect may well prove the same.



At one of the many ACA press conferences in 1981, panelists discussed the Reagan Strategic Program. From L to R; Paul C. Warnke, Marsha M. McGraw, Herbert Scoville, Jr., and Barry E. Carter.

In contrast to earlier “ban the bomb” movements in the West, the current surge of anti-nuclear sentiment is fed by doubts about civil nuclear power, unmoved by marginal arguments about the relative balance of nuclear forces, and less stimulated by dramatic, but transitory, events or crises. Impelled by proliferating “backyard” issues, it represents, as well, the growing sense of Western publics that they want a voice in, or at least a veto over, all decisions relating to nuclear matters—decisions formerly reserved to a tiny cadre of politicians and specialists.

Association Activities

The “democratization” of nuclear policy formed a major theme in the report of the Association's September conference in Brussels on *Nuclear Weapons in Europe: Modernization and Negotiation*. Prepared by conference co-chairmen Elliot Richardson of the U.S. and Henri Simonet of Belgium, the report also stressed the importance of LRTNF negotiations for the viability of the Atlantic alliance. [See *Arms Control Today*, November 1981, for this report.]

The ninth and most ambitious of A.C.A.'s international conferences, the Brussels meeting was the major program event for the Association in 1981. It led to well-attended press briefings in Brussels, New York, and Washington. The conference papers and report will be included in a comprehensive book on the LRTNF issue to be published for the Association in 1982.

The steadily rising tide of interest in arms limitation stimulated the expansion or initiation of other A.C.A. programs as well. The press run of *Arms Control Today* was increased by more than 50 percent; more press briefings were held in 1981 than in the two previous years combined; and the A.C.A. slide presentation, “Security, Strategy, and New Technology,” was well received by over 5,000 individuals from Boston to Colorado Springs and from Minneapolis to Athens, Georgia. Editorial Advisories and op-ed articles prepared by the Association staff appeared in papers throughout the country. Special reports on nuclear weapons proliferation in the Middle East, on the Pentagon's one-sided document *Soviet Military Power*, and on the Reagan strategic program have stimulated continuing demand. Meanwhile, such A.C.A. programs as the information service and speakers' bureau have been hard pressed to keep pace with inquiries from the press and the public.

With the growth of concern about nuclear weapons issues, the Association has necessarily begun to change in character. In addition to serving as a clearinghouse and source of information and ideas for the attentive public, A.C.A. has begun to reach a more heterogeneous and national audience, well reflected in the geographic spread and diversity of its growing membership. Of special interest in this regard has been the reception of the Association's efforts to build for the longer term by addressing tomorrow's opinion-leaders through its programs for secondary and higher education, its five-year-old "New Faces" conference series for promising specialists, and its participation in November's college teach-ins on nuclear war.

A major force in arms control and in the Association's success has been A.C.A. president Herbert Scoville, Jr., whose 1981 book, *MX: Prescription for Disaster*, was widely acclaimed. In a fitting tribute to his life's work, "Pete" was presented with the Rockefeller Public Service Award for the contribution he has made both to the achievement of arms limitation and to public education on its behalf. [See box for citation.]

As the Association's program year concluded in the annual membership meeting last December, another major figure in the arms control movement, William C. Foster—first director of the Arms Control and Disarmament Agency and retiring chairman of the A.C.A.—was awarded a citation for his ser-

vice on behalf of a "pragmatic way to peace." Following a panel discussion at the same meeting on nuclear weapons in Europe moderated by Elliot Richardson, incoming A.C.A. chairman and SALT I negotiator Gerard C. Smith introduced a guest speaker Thomas J. Watson, Jr., whose remarks are reprinted in this issue of *Arms Control Today*.

Looking Ahead

As public apprehension mounts over the future direction of the arms race in a world troubled by events in Poland, Nicaragua, Afghanistan, the Mid-East, and elsewhere, the claims made on the Association can only increase. Planning for 1982 includes expansion of current programs, enlargement of A.C.A.'s board of directors, membership, and staff, and new initiatives, such as co-sponsorship of a conference on the role of higher education in nuclear war issues, participation in Ground Zero Week in April, and a primer on arms control. In each instance immediate aim will be to build on existing strengths and to pursue new and vital audiences.

Yet the larger purpose of the Association will continue to encourage the understanding—increasingly but still inadequately recognized by the new administration—that the costs and risks of an aggravated arms race are both bad national security policy and bad politics.

—William H. Kincade

Arms Control Today in 1981

January	"There is No Other Way," Gerard C. Smith; "ACA 1980 Year in Review and In Prospect"; Review of <i>Doubletalk: The Inside Story of SALT I</i> , by Gerard C. Smith.	July/August	"Outer Space: Arms or Arms Control," Paul Stares; "Fallout and the Land-Based MX," Joel Wit and Michael J. Zagurek, Jr.; Review of <i>Nonproliferation and U.S. Foreign Policy</i> , edited by Joseph Yager.
February	"Counterforce Targeting: How New? How Viable?" Desmond Ball; "The NPT Review Conference," Marsha M. McGraw.	September	"Nuclear Proliferation After Osirak," Richard K. Betts; "Nuclear Supply Policies After Osirak," Peter Clausen; "Nuclear Power Plants In Wartime," Bennet Ramberg; "News of Negotiations."
March	"Arms Control Lessons of the Carter Administration: Looking Back, Looking Forward," (Interview with Ralph Earle II, David Aaron and Walter Slocombe); "News of Negotiations"; Review of <i>Verification and SALT</i> , edited by William C. Potter.	October	"Reagan's Approach: START Off From the Beginning," Michael Krepon; "Limits on Nuclear Testing: Another View," William Epstein; "The Reagan Nonproliferation Policy," Paul F. Power; Review of <i>Research Guide To Current Military and Strategic Affairs</i> , by William M. Arkin; "News of Negotiations."
April	"Reviving the ABM Debate," Albert Carnesale; "BMD Technology—A Layman's Guide," Jeff Porro.	November	"Nuclear Weapons In Europe: A Report From the ACA Conference In Brussels"; "Soviet Military Power—A Review," Robert Travis Scott and Wendy Silverman; "News of Negotiations."
May	"Missile Vulnerability Reconsidered," William H. Kincade; "Precision and Accuracy," Kosta Tsipis; Review of <i>Politics and Force Levels: The Strategic Missile Program of the Kennedy Administration</i> , by Desmond Ball; "News of Negotiations."	December	"The Reagan Strategic Program," Ronald L. Tammen; "Ground Zero Week," Wendy Silverman; Review of <i>Protest and Survive</i> , edited by E. P. Thompson and Dan Smith, and "Negotiate and Survive," by David Owen; "News of Negotiations."
June	"The Comprehensive Test Ban Negotiations: Can They Be Revitalized?" Barry M. Blechman; "Common Sense About the Defense Budget," John Harbin; "News of Negotiations"; Review of <i>The Winning Weapon</i> , by Gregg Herken.		

News of Negotiations

Outer Space II: Prohibiting All Weapons

In the spring of 1981, after the successful flight of the space shuttle, the Soviet Union expressed concern about the militarization of outer space. While the 1967 treaty on the activities of states in outer space, commonly called the Outer Space Treaty, addresses this problem, it bans only weapons of mass destruction.

At the fall 1981 session of the United Nations General Assembly, the USSR introduced a resolution, accompanied by a draft treaty text, calling for the Committee on Disarmament to begin negotiations on a treaty to prohibit weapons of any kind in outer space. In addition to the shuttle, the Soviets also cited as reasons for such a treaty the threat of particle beams and laser weapons.

Several Western countries found the draft one-sided and poorly drafted; in particular, they felt it did not cover anti-satellite weapons, a field in which some observers believe the Soviets have a lead. Consequently, Australia, Belgium, France, the Federal Republic of Germany, Italy, the Netherlands, New Zealand, and Great Britain introduced a resolution calling for the Committee on Disarmament to "consider the question of negotiating effective and verifiable agreements aimed at preventing an arms race in outer space."

In particular, the resolution, noting that negotiations on anti-satellite weapons between the US and the USSR had taken place in 1978 [without success], requested the Committee to make these weapons its priority.

Both resolutions passed the General Assembly without a negative vote, although the West abstained on the Soviet proposal and the East abstained on the West's proposal. Presumably the Committee on Disarmament will add these items to its agenda when it meets for its regular work on February 3, 1982. [For background see Paul Stares' article in ACT July/August 1981]

Middle East Nuclear-Weapon-Free Zone

Both Israel and the US, interested in pursuing a nuclear-weapon-free zone in the Middle East, have been waiting for an Egyptian proposal in the UN. The First Committee (Political and Security) of the General Assembly finally received it on November 16. Contrary to an Israeli proposal of June 9, it did not call immediately for a conference to negotiate a zone, but for the Secretary General to appoint a special representative to ascertain the opinions of the affected countries on how to create the zone. This was more definite than the prior year's resolution, also introduced by Egypt, which called on the Secretary General to "explore the possibilities of progress."

On November 23 Qatar sought to amend the resolution by including references to the Israeli attack on the Iraqi reactor and by replacing the special representative's task with a report from the Secretary General to the Second Special Session on Disarmament, which will take place in June of 1982.

Egypt had earlier said that it would withdraw its resolution unless it could get consensus in the First Committee. Consequently it substantially revised the resolution by eliminating all preambular paragraphs and requesting only that the Secretary-General transmit the 1980 resolution to the Second Special Session: the General Assembly agreed to this on December 9.

Egypt is now contemplating a more detailed proposal to be introduced at the Second Special Session. The US remains very interested in the process, but maintains that any initiative must come from the countries in the region; it can only wait.

Indian Ocean as a Zone of Peace

After meetings in October and November, the UN Ad Hoc Committee on the Indian Ocean at last agreed on a final report. The chairman had wanted it to indicate that virtually all the littoral and hinterland states had called for the conference in 1981 as mandated by the UN General Assembly. However, the report dropped that language and instead referred to "two broad views" about the dates.

According to the first view, held by "a large number of delegations," the conference should be held as scheduled and differences worked out there; the second view held that because of the "adverse current political and security climate" adequate progress on the "harmonization of views" should first be made.

The General Assembly on December 9 passed by consensus the recommendation submitted by the Ad Hoc Committee; the Committee is to continue its work for six weeks in 1982. It should "make every effort to accomplish the necessary preparatory work for the Conference, including consideration of its convening not later than the first half of 1983." [See ACT May, September, October]

CBMs and the CSCE

On December 10 Austria, supported by Cyprus, Finland, Liechtenstein, San Marino, Sweden, Switzerland, and Yugoslavia, floated a compromise final document in Madrid. On the key remaining sticking point, how far beyond the western edge of the European continent the zone of confidence-building measures (CBMs) should extend, the document calls for notification of air and sea maneuvers only "insofar as these activities constitute a part of activities in Europe."

The Soviets say they can live with the proposal if some changes are made, a more positive tone than their reaction to the last neutral and non-aligned proposal in March. The Americans say they can live with it also, as long as the word "integral" or "component" modifies the word "part."

The conference adjourned, on December 18, to February 9. While the US wanted a longer break, a majority in NATO, led by the West Germans, and a majority at the CSCE wanted a shorter break. The World Cup soccer tournament, being

held in Madrid, prevents a resumption in January. [See ACT September, December 1981]

(Long Range Theater) (Intermediate-Range) Nuclear Forces

Talks on the nuclear weapons now facing each other in Europe opened in Geneva on November 30. Both the United States and the Soviet Union agreed that nothing about the substance of the talks would be discussed; the starting positions of the two sides are well-known.

The position of the US was reflected in the change of the name of the talks from Long Range Theater Nuclear Forces (LRTNF) to Intermediate-Range Nuclear Forces (INF). The word "Theater" has been dropped: first, because NATO believes the SS-20 missile, with a 4400 kilometer range, is much more than a theater weapon and second, because the US wants to eliminate the SS-20 missiles worldwide, not just permit their removal to another location. The words "Long Range" were dropped because "Intermediate Range" seemed more appropriate and using a modifier such as "Longer-Range Intermediate-Range Nuclear Forces" sounds awkward.

After six meetings, the talks were recessed on December 17 for four weeks, until January 12, 1982. [See ACT June, November 1981]

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The latest round ended without anything new on December 10. A new round, the 26th, will begin on January 28 and run for eleven or twelve weeks. [See ACT June 1981]

—Chalmers Hardenbergh

ACA President Honored

On December 8, 1981, A.C.A. president, Herbert Scoville, Jr., was awarded one of eight Rockefeller Public Service Awards for his work in promoting world peace. The citation honoring Dr. Scoville read:

Herbert Scoville, Jr., has worked as a private citizen and throughout his career as a distinguished government scientist to bring about a rational approach to nuclear arms control. As president of the Arms Control Association, which he helped establish in 1971 after leaving government service, he has worked tenaciously to keep nuclear arms reduction a national priority. Believing that an informed citizenry can serve as a foundation for effective action, he has focused his energies on increasing the public's awareness of nuclear weapons issues.

During his career in government service, Scoville conducted scientific research influential in making arms agreements workable. He helped develop the technology for monitoring the possession and deployment of nuclear weapons and applied his scientific research and knowledge to the formulation of arms agreements.

The Arms Control Association

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The Arms Control Association is a nonpartisan national membership organization dedicated to promoting public understanding of effective policies and programs in arms control and disarmament. Formed in 1971 by a group of concerned individuals with extensive experience in the fields of arms control, disarmament, and national security policy, the Association seeks to create broad public appreciation of the need for positive steps toward the limitation of armaments and the implementation of other measures to reduce international tensions on the road to world peace. Under a cooperative agreement, the Association participates in a number of joint ventures with the Carnegie Endowment for International Peace.

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Books

Tom Longstreth

Cruise Missiles: Technology, Strategy, Politics

edited by Richard K. Betts

Richard K. Betts, *Cruise Missiles: Technology, Strategy, Politics*, (Washington: The Brookings Institution, 1981), 612 pages. (\$32.95 hardback. \$15.95 paperback.)

Cruise Missiles: Technology, Strategy, Politics, the Brookings Institution's long awaited in depth analysis, has finally been released and should be the definitive work on the subject for some time.

The twenty contributors to *Cruise Missiles* present well-reasoned, though often conflicting, analyses of the key questions concerning cruise missiles: Are they the inexpensive, highly versatile addition to U.S. deterrent capability, both nuclear and conventional, as their proponents claim? Or might they spell the end for attempts at meaningful arms control (especially if deployed on sea-based launchers)?

While *Cruise Missiles* may not answer these questions completely, it will at least heighten awareness and understanding of the complexity of the problem. As Richard Betts notes, the book aims "... to highlight the uncertainties, dilemmas, and contradictions in cruise missile development. ..."

For those unfamiliar with some of the technological aspects of cruise missiles, John Toomay presents a brief and excellent primer on its technical characteristics—past, present and future.

Strategy and military applications of the various modes (air, sea and ground-launched) of delivery for cruise missiles are described in chapters by Michael McGwire, Roger Palm, Bruce Bennett and James Foster, and Richard Burt.

Robert Art and Stephen Ockenden have written a most perceptive and well researched chapter on the service infighting and bureaucratic wrangling which early cruise missile development managed to survive. The military services feared that cruise missiles could threaten their respective primary missions. Politicians saw cruise missiles as a convenient solution to many budgetary, strategic and arms control problems.

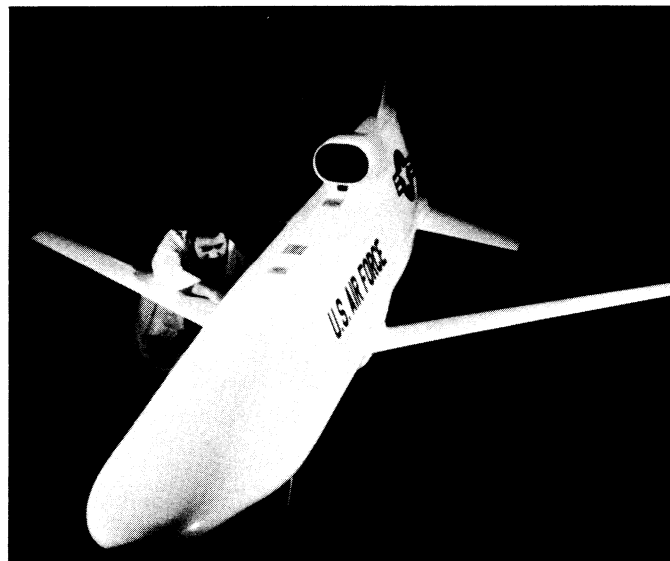
To those who fear that negotiated restrictions on cruise missiles may be impossible, William Kincade's essay on arms control and the cruise missile offers some hope. Kincade outlines a much needed framework for U.S. negotiating posture on cruise missile restrictions (for instance, functionally related observable differences) and suggests some areas for substantive Soviet concessions in return.

Sections by Gregory Treverton and Catherine McCardle Kelleher reveal some of the contradictions in European attitudes toward cruise missile deployment. Both trace some of the history of the Long Range Theater Nuclear Forces (LRTNF) debate of the late 1970's and describe future sources of difficulty. Lawrence Freedman deals with a concern almost completely neglected in U.S. public debate—the potential for British and French development of their own cruise missile forces.

In one of the book's appendices, John Baker has bravely attempted to sift through the ever changing data on air, sea and ground launched cruise missile costs, program status, and characteristics. While some may quarrel here and there with Baker's figures, his research has produced a plethora of charts and statistics which will certainly prove to be a valuable source of reference for any scholar's further study.

Richard Betts sums up the difficulty of formulating a coherent national cruise missile policy in the book's conclusion. He states: "One thing is clear: neither the benefits nor the disadvantages of cruise missiles are as revolutionary or as simple as either advocates or opponents originally believed. A better view of what cruise missiles do offer depends

Continued



An engineer inspects an air-launched cruise missile.

U.S. Cruise Missiles Planned as of 1981

Type	Description	Initial operational capability	Warhead	Operational range (kilometers)	System	Launch platform	Projected production level
Air-launched cruise missile (ALCM)	Long-range nuclear-armed land-attack missile	December 1982	Nuclear	2,500	Inertial guidance aided by TERCOM	Strategic B-52G bombers	3,418
Sea-launched cruise missile (TASM)	Medium-range conventionally armed antiship missile	June 1982 (submarines); June 1983 (surface ships)	1,000 pounds conventional	450	Active radar seeker	Submarines and surface ships	n.a.
Sea-launched cruise missile (TLAM-C)	Long-range conventionally armed land-attack missile	January 1982 (submarines); June 1983 (surface ships)	1,000 pounds conventional	800	Inertial guidance aided by DSMAC	Submarines and surface ships	n.a. ^a
Sea-launched cruise missile (TLAM-N)	Long-range nuclear-armed land-attack missile	Undetermined	Nuclear	2,500	Inertial guidance/TERCOM	Submarines and surface ships	n.a.
Ground-launched cruise missile (GLCM)	Long-range nuclear-armed land-attack missile	December 1983	Nuclear	2,500	Inertial guidance/TERCOM	Ground-mobile transporter-erector-launcher	560
Medium-range air-to-surface missile (MRASM) ^b	Medium-range conventionally armed missile variants						Several thousand
	AGM-109C (land attack)	Fiscal year 1983	650 pounds conventional	480	Inertial guidance/TERCOM/DSMAC		
	AGM-109H (Air Force, land attack)	Fiscal years 1984-85	1,200 pounds antiairfield submunitions	400	Lower cost guidance system/TERCOM/DSMAC	B-52D bomber; F-16 fighter	

n.a. Not available.
 a. Plans call for the conversion of the B-52G bombers to serve as cruise missile carriers. Other possible launch platforms for the ALCM during the 1980s include the B-52H and a dedicated cruise missile carrier aircraft based on a variant of the earlier B-1 bomber.
 b. The current Tomahawk SLCM program is projected on the basis of missile production figures and costs through the latest five-year defense plan. As the five-year defense plan is updated each year, the cost and force level projections will change. In the defense request for fiscal 1981 the Tomahawk program cost was based on projected funding for 574 SLCMs during fiscal years 1982-86. The Reagan amendment of March 1981 added 40 SLCMs to the 1982 request.
 c. As of this writing, neither a specific initial operational capability nor firm production figures have been reported for the nuclear-armed Tomahawk SLCM. The first TLAM-N cruise missile could become available in 1984 if it is decided to start production.
 d. The initial MRASM variant (AGM-109C) will rely on the existing cruise missile guidance system although it will have a lower cost turbojet engine instead of the turbofan engine of the other cruise missiles. Later land-attack MRASMs will seek to use a less expensive inertial guidance system such as the ring laser gyro system while retaining the TERCOM and DSMAC terminal guidance components. Eventually an MRASM might also be developed for the Navy to use in attacking targets at sea as well as on land. It could incorporate an imaging infrared seeker guidance set and data link for the capability to attack targets at sea.

A table from *Cruise Missiles*

on an appreciation of the interacting strategic, political, diplomatic, and budgetary implications of the new systems."

If individuals dedicated to arms control are to work effectively toward resolving the cruise missile problem, they must understand both sides of the coin: its utility as a weapon as well as the political and arms control consequences of its deployment. This volume puts together the various pieces of the cruise missile puzzle and thus contributes significantly to a well informed debate on this pivotal issue of arms control and national security policy.

Digesting the wealth of information contained within *Cruise Missiles: Technology, Strategy, Politics* should keep most readers busy for some time. The book's biggest disappointment is that it was not available sooner. With the momentum that the cruise missile program has gained, it will be difficult, if not impossible, for policy makers to stand back and rationally assess where the modern cruise missile is leading us. Betts and his fellow contributors, however belatedly, have attempted to do just that.

ACA Appoints New Director

Starting this January, Jeffrey David Porro will act as Executive Director of the Arms Control Association while William Kincade prepares an Adelphi Paper on emerging strategic technologies for the International Institute for Strategic Studies in London. Dr. Porro received a Ph.D. from UCLA in 1975. He has since served as a consultant to the RAND Corporation, as a Legislative Assistant to Senator Howard Metzenbaum for national security and foreign affairs, and with the Bureau of Politico-Military Affairs at the State Department, where he worked on the SALT Task Force. Dr. Porro was appointed Communications Director of the Arms Control Association and Editor of *Arms Control Today* in January 1978.

Watson

From page 3

mittee report will be a powerful assist toward ratification. In doing so, he would strengthen the Alliance, reduce the threat of "breakout" by the Soviets, and give the world some breathing space to plan the next step.

I got into the arms control business in the summer of 1977, and have had few moments of optimism on the subject since. However, delays have been caused as much by marginal issues and politics as by substance. With a blue-ribbon panel of the type I suggest, we could move with dispatch.

There is a vital role for the Arms Control Association in this effort. First, I suggest you put together in one comprehensive list, the names of all those leading figures in this country who support meaningful arms control and the general outlines of SALT II. And I suggest you put that list in the hands of our leaders with emphasis on the continued support knowledgeable people have for SALT.

Second, I hope you will redouble your efforts to improve public understanding of these issues. Public interest is growing, but leadership is needed to bring together the individuals and numerous organizations who want to stop the arms race. This ground swell must be directed constructively. We

"Arms controllers have to provide the anchor for rational debate in our society. . . ."

must avoid any notion of unilateral disarmament for we face a superpower who has the same weapons we do. If we unilaterally disarmed, the Soviet Union would not hesitate to hold over us military threats to advance its own interest.

I hope the growing constituency for arms control will come to share your vision and mine: verifiable treaties which progressively lower the risk of war and the cost of peace.

Throughout this talk I've underscored the absolute imperative of bipartisanship in arms control. It was a Democratic President who twenty years ago established the Arms Control Agency. And it was a Republican President who on April 4, 1956 wrote these words:

The true security problem . . . is not merely man against man or nation against nation. It is man against war . . . When we get to the point as we one day will, that both sides know that in any outbreak of general hostilities, regardless of the element of surprise, destruction will be both reciprocal and complete, possibly we will have sense enough to meet at the conference table with the understanding that the era of armaments has ended and the human race must conform its actions to this truth or die.

And I ask you—are we not close enough to that point right now to give the conference table and the SALT II Treaty another try?

Thank you.

Association Board Expanded

At the A.C.A. Annual Membership Meeting in Washington on December 9, 1981, the members voted to add four new directors to the current board of 20 directors, who were re-elected to their positions for the next year. Newly elected directors are: Lloyd Cutler, an attorney in private practice in Washington and former counsel to President Carter on SALT II ratification; Admiral Noel Gayler, USN (Ret.), former Commander-in-Chief, Pacific; Benjamin Huberman, a Washington consultant and former official at the Arms Control and Disarmament Agency, National Security Council staff, and Office of Science and Technology Policy; and Randall Forsberg, founder of the Institute of Defense and Disarmament Studies.

Earlier in the fall, the A.C.A. board approved changes to the Association by-laws expanding the maximum size of the board from 20 to 30, primarily in order to be better prepared for the continuing expansion of A.C.A. activities. Minutes of the membership meeting are available to all members requesting them.

Immediately following the members' meeting, the board met to elect officers for the coming year. The Association will be led in 1982 by: Gerard C. Smith, Chairman; Herbert Scoville, Jr., President; Barry Carter, Vice President and Treasurer; Betty Lall, Secretary; and Thomas L. Hughes, Chairman of the Nominating Committee. John Rhineland had asked to be relieved of his duties as Treasurer, owing to the pressures of his legal work. The board also approved for another year the joint cooperative agreement between the Association and the Carnegie Endowment and the institution of an informal board of consultants to assist the board and staff.

Freeze Campaign Holds Second National Conference

The Nuclear Weapons Freeze Campaign will hold its Second National Conference in Denver, Colorado, from February 19-21, 1981, to meet with organizers and plan future strategies. Featured speakers at the conference include Congresswoman Pat Schroeder and Bishop Leroy T. Matthieson. A Speakers Training Workshop will also be offered. For registration information, please contact:

**Nuclear Weapons Freeze Campaign
National Clearinghouse
4144 Lindell—Suite 201
St. Louis, Missouri 63108**

Arms Control in Print

—Robert Travis Scott—

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Betts, Richard K., *Cruise Missiles: Technology, Strategy, Politics*, (Washington: The Brookings Institution, 1981), 612p. (The most comprehensive, in depth examination of the cruise missile to date, and probably the best for a long time to come. Cruise missile technology and development programs are dealt with in chapters by John C. Toomay; Gordon MacDonald, Jack Ruina, and Mark Balaschak; Ron Huiskens; and John C. Baker. Military uses and arms control implications are discussed by Bruce Bennet and James Foster; Roger H. Palin; Richard Burt; Michael McGwire; George H. Quester; and William H. Kincaide. Diplomatic and national political questions are analyzed by Raymond Garthoff; Robert J. Art and Stephen E. Ockenden; Gregory F. Treverton; Lawrence D. Freedman; and Catherine McArdle Kelleher. See the review on page 8.)

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